

**WHAT IS CLAIMED IS:**

1                   1.     An artificial disc prosthesis system comprising:  
2                   (a)     a stabilizing element; and  
3                   (b)     a scaffold assembly adapted to removably retain the stabilizing  
4 element when the artificial disc prosthesis system is disposed between two vertebrae,  
5 wherein the scaffold assembly is capable of accommodating stabilizing elements of a  
6 plurality of shapes or sizes.

1                   2.     The artificial disc prosthesis system of claim 1, wherein the  
2 stabilizing element is a disc prosthesis.

1                   3.     The artificial disc prosthesis system of claim 1, wherein the  
2 stabilizing element is a fusion prosthesis.

1                   4.     The artificial disc prosthesis system of claim 1, wherein the  
2 scaffold assembly comprises a base adapted to be attached to a vertebral end plate  
3 without covering the entire surface of the end plate.

1                   5.     The artificial disc prosthesis system of claim 4, wherein the  
2 base is adapted to be attached to a central portion of the vertebral end plate without  
3 covering a central portion of the end plate.

1                   6.     The artificial disc prosthesis system of claim 4, wherein the  
2 base is adapted to be attached to a central portion of the vertebral end plate without  
3 covering the peripheral region of the end plate.

1                   7.     The artificial disc prosthesis system of claim 1, wherein the  
2 stabilizing element is a disc prosthesis and the scaffold assembly comprises a first  
3 base adapted to be attached to a first vertebral end plate and a second base adapted to  
4 be attached to a second vertebral end plate, and wherein the scaffold assembly further

5 comprises at least one buttress removably attached to each base, such that the  
6 buttresses removably retain the disc prosthesis between two bases when the artificial  
7 disc prosthesis system is disposed between two vertebrae.

1                   8.       The artificial disc prosthesis system of claim 7, wherein the  
2 scaffold assembly further comprises a first plate attached to the first base and a second  
3 plate attached to the second base, the second plate disposed opposite and in parallel  
4 relation to the first plate, such that the plates removably retain the disc prosthesis  
5 between the two plates when the artificial disc prosthesis system is disposed between  
6 two vertebrae.

1                   9.       The artificial disc prosthesis system of claim 8, wherein the  
2 first plate and the second plate have high friction outer surfaces.

1                   10.      The artificial disc prosthesis system of claim 8, wherein the  
2 first plate and the second plate have low friction outer surfaces.

1                   11.      The artificial disc prosthesis system of claim 1, wherein the  
2 stabilizing element is a disc prosthesis comprising a concave surface attached to a first  
3 prosthesis base by at least one flexible support and a complementary convex surface  
4 disposed on a second prosthesis base positioned opposite the first prosthesis base,  
5 wherein the concave surface and the convex surface form a rotating joint, and further  
6 wherein the at least one flexible support is capable of flexing to provide shock  
7 absorption when the artificial disc prosthesis system is disposed between two  
8 vertebra.

1                   12.      The artificial disc prosthesis system of claim 11, wherein the  
2 concave surface is attached to the first prosthesis base by two or more flexible  
3 supports.

1                   13.      The artificial disc prosthesis system of claim 1, wherein the  
2 scaffold assembly comprises a material selected from metal, ceramic and plastic.

1                   14.     The artificial disc prosthesis system of claim 1, wherein the  
2     scaffold assembly comprises a material selected from cobalt chrome or titanium.

1                   15.     A method for revising a stabilizing element, the method  
2     comprising:

3                   (a)     removing a first stabilizing element from an intervertebral  
4     space, wherein the first stabilizing element was removably retained in the  
5     intervertebral space by a scaffold assembly; and

6                   (b)     inserting a second stabilizing element into the intervertebral  
7     space such that the second stabilizing element is removably retained in the  
8     intervertebral space by the scaffold assembly;

9                   wherein the scaffold assembly remains in the intervertebral space  
10     during the removal of the first stabilizing element and the insertion of the second  
11     stabilizing element.

1                   16.     The method of claim 15, wherein the first and second  
2     stabilizing elements are independently selected from the group consisting of fusion  
3     prostheses and disc prostheses.

1                   17.     The method of claim 15, wherein the first and second  
2     stabilizing element have a different size, shape, or size and shape.

1                   18.     A disc prosthesis comprising:

2                   (a)     a concave surface attached to a first base; and

3                   (b)     a convex surface attached to a second base;

4                   wherein the concave surface and the convex surface together form a  
5     rotating joint and further wherein at least one the of concave and convex surfaces is  
6     attached to its based through at least one flexible support capable of flexing to provide  
7     shock absorption when the artificial disc prosthesis is disposed between two vertebra.

1                   19.     The disc prosthesis of claim 18, wherein the concave surface is  
2     attached to the first base through at least one flexible support.

1                   20.     The disc prosthesis of claim 18, wherein the convex surface is  
2     attached to the second base through at least one flexible support.

1                   21.     A disc prosthesis comprising:

2                   (a)     a first external cup;

3                   (b)     a first internal cup comprising a first inner surface, the first  
4     internal cup mounted to the inside of the first external cup;

5                   (c)     a second external cup; and

6                   (d)     a second internal cup comprising a second inner surface  
7     complementary to the first inner surface, the second internal cup mounted to the  
8     inside of the second external cup;

9                   wherein the first and second internal cups are disposed opposite one  
10     another such that the first and second inner surfaces contact one another to form a  
11     rotating joint.

1                   22.     The disc prosthesis of claim 21, wherein the first internal cup is  
2     centered within the first external cup and the second internal cup is centered within  
3     the second external cup.

1                   23.     The disc prosthesis of claim 21, wherein the first internal cup is  
2     offset from the center of the first external cup and the second internal cup is offset  
3     from the center of the second external cup.

1                   24.     The disc prosthesis of claim 21, wherein one of the internal  
2     cups has a smaller diameter than the other internal cup such that the smaller internal  
3     cup fits at least partially within the larger internal cup when the first and second inner  
4     surfaces are in contact.

1                   25.     The disc prosthesis of claim 21, wherein one of the external  
2     cups has a smaller diameter than the other external cup such that the smaller external  
3     cup fits at least partially within the larger external cup when the first and second inner  
4     surfaces are in contact.

1                   26.     The disc prosthesis of claim 21, wherein the first inner surface  
2     is mounted on at least one flexible support capable of flexing to provide shock  
3     absorption.

1                   27.     An artificial disc prosthesis system comprising:

2                   (a)     a stabilizing means for stabilizing two adjoining vertebrae in  
3     the absence of a vertebral disc; and

4                   (b)     a retaining means for removably retaining the stabilizing means  
5     when the artificial disc prosthesis system is disposed between two vertebrae, wherein  
6     the retaining means is capable of accommodating stabilizing means of a plurality of  
7     shapes and sizes.